

L 2971-66

ACCESSION NR: AP5022923

were processed on a "Minsk-1" computer to give: 1) average wind velocity; 2) mean square value and Euler's scale pulsations; 3) average rate of energy dissipation; 4) the correlation coefficient for the wind velocity pulsations computed from the observations; and 5) correlation functions for the wind velocity pulsations in the two observed zones. These were tabulated, while the correlation of function curves $\bar{V}_1(t)$ and $\bar{V}_2(t + 2L \cos \beta/V)$ for 4 sets of observations is presented graphically. It is shown that the correlation coefficient obtained in about 135 sec is 0.7 and varies from 0.88 to 0.53. During the passage of a cold front, the Lagrange correlation period exceeds the Euler's period by a factor of 15. The measurements of the wind velocity pulsations obtained by this method agree with those determined by direct measurements. Orig. art. has: 2 figures and 2 tables.

[ER]

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central Aerological Observatory)

SUBMITTED: 14Apr65

ENCL: 01

SUB CODE: ES

NO REF SOV: 001

OTHER: 003

ATD PRESS: 4109

BVK

Card 2/3

L 2971-66

ACCESSION NR: AP5022923

ENCLOSURE: 01

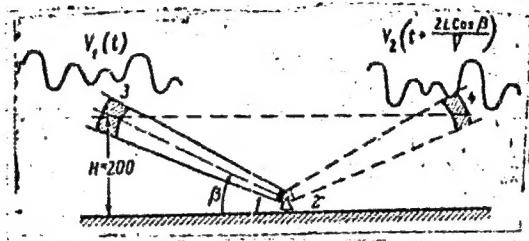


Fig. 1. Method for simultaneous measurements
of Lagrange and Euler degrees of pulsations

1 - Antenna facing into the wind; 2 - antenna
facing away from the wind; 3, 4 - location of
the scattering zone in space.

BVK.

Card 3/3

GORELIK, A.G.; SHAKHOVA, N.A.

Investigating the heat exchange in a fluidized bed under the
conditions of heat supply by infrared rays. Khim.prom. 41
no.6:424-426 Je '65.

(MIRA 18:8)

L 1074-66 EWT(1)/FCC
ACC NR. AP5023679

UR/0050/65/000/010/0012/0020
UDK 551.(501.75+557)

AUTHOR: Gorelik, A.G.⁺⁵⁴ (Candidate of physico-mathematical sciences);
Kostarev, V.V.⁺⁵⁵ (Candidate of technical sciences)
Chernikov, A.A.⁺⁵⁶ (Candidate of physico-mathematical sciences).

TITLE: Combined coordinate-doppler tracking method of wind observation, with some data on the inhomogeneities of wind fields in the atmosphere

SOURCE: Meteorologiya i gidrologiya, no. 10, 1965, 12-20

TOPIC TAGS: wind, wind profile, wind velocity, wind direction
44.55

ABSTRACT: The authors describe the theory, difficulties and results of wind observations based upon a combined (doppler-coordinate) doppler tracking method previously described by them in detail elsewhere (avtorskoye svidetel'stvo NR 157,465 of 10Oct65). The doppler method, based upon frequency shift of the signal reflected from an airborne target has the advantages of high precision and continuous registration. A combination of doppler and coordinate tracking methods appears therefore promising. Experience showed, however, that pendulous oscillations of suspended reflectors created overwhelming velocity signal noise. Therefore, solid symmetric freely dropped reflector targets were adopted. A theoretical study points to the need of high angular resolution and a small range of altitude elevation angles. This results in long range tra-

Cord 1/2

L 10742-66

ACC NR: AP5023679

(3)

cking requirement with related requirements of effective reflectors and optimized radar frequencies and pulse repetition rates. Results of 12 reflector drops in the Fall and Winter of 1963 are given, with relative wind velocity pulsations plotted for various altitudes and wind velocities. The RMS wind pulsations reach a maximum of 4% at 400 meters and remain close to 2% between the altitudes of 3 to 12 km. The relative pulsations are practically independent of wind velocity at all altitudes studied. The reflector sinking velocities were fairly constant and reached 4.15 - 4.35 m/s at the ground. The time delay constant of target acquisition of the wind velocity was between .5 and 1.0 seconds, limiting the registered granularity to 5 - 10 meters. The good resolution of the method based on combined doppler and coordinate tracking opens new possibilities for the study of wind structure. Preliminary results point to the presence of a complex mesostructure of the wind field. Orig. art. has: 5 figures, 2 tables and 8 formulas.

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central aerological observatory) 44,55

SUBMITTED: 3Jun65

ENCL.: 00

SUB CODE: 08

NO REF Sov: 003

OTHER: 000

6C

(18)

Card 2/2

GORELIK, A.G.; KOSTAREV, V.V.; CHERNIKOV, A.A.

Coordinate-Doppler method of wind observations. Trudy TSAO
no. 57:19-23 '64.
(MIRA 19:1)

GORELIK, A.G.; CHERNIKOV, A.A.

Some results of a radar study of the structure of the wind
field at heights of 50-700 m. Trudy TSAO no.57:3-18 '64.
(MIRA 19:1)

GORELIK, A.G.; CHERNIKOV, A.A.

Some problems of multiple-purpose radar. Trudy TSAO
no.57:77-86 '64. (MIRA 19:1)

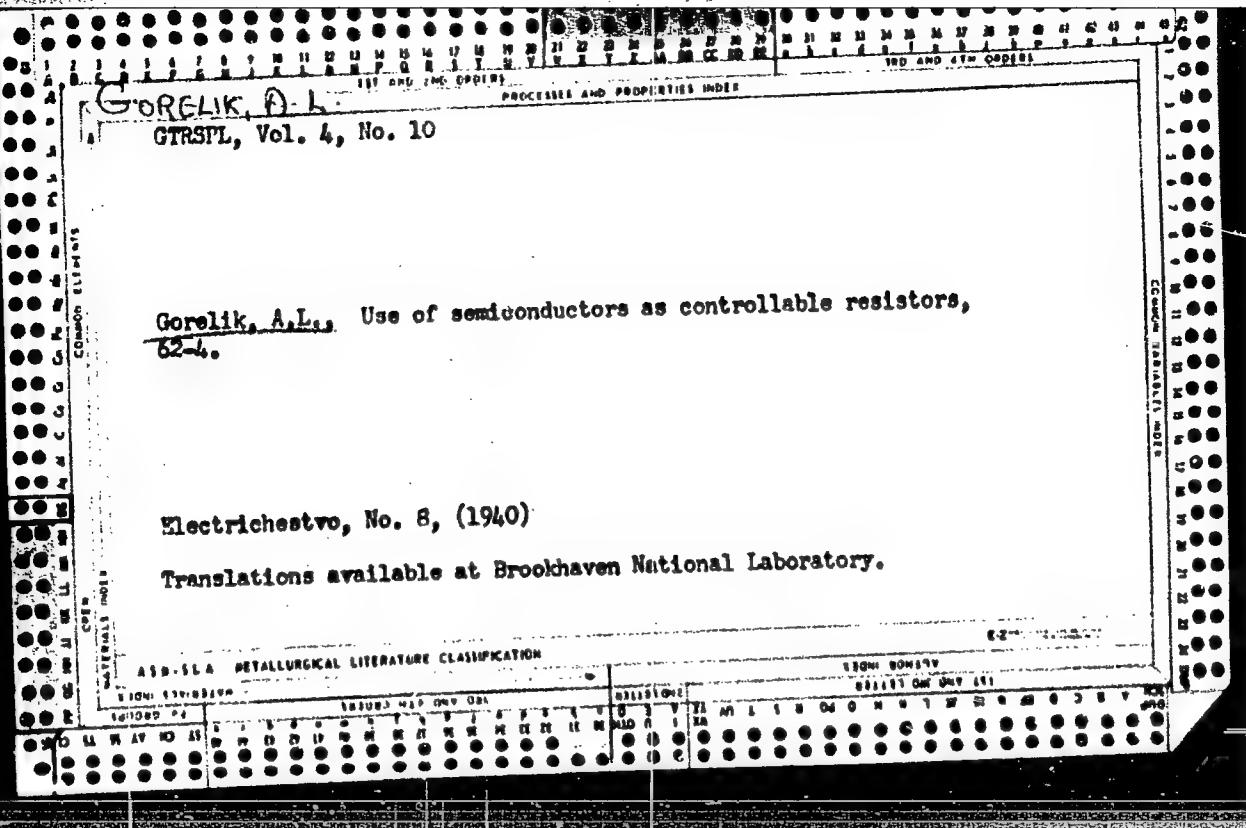
ROCHEV, N.N., *glav. red.*; VAVILOV, P.P., *red.*; VERTEL', E.I., *red.*; GORELIK, A.I., *red.*; GUZMAN, I.S., *red.*; KUZNETSOV, G.N., *red.*; MEDVEDEV, G.A., *red.*; MODYANOV, Ya.V., *red.*; PANTELEYEVA, A.A., *red.*; POLYAKOV, V.V., *red.*; POPOV, S.A., *red.*; POPOVA, S.M., *red.*; RAYEVSKIY, S.S., *red.*; RUDAKOV, S.V., *red.*; SYUTKIN, A.F., *red.*; USOV, A.I., *red.*; USTINOVA, I.K., *red.*; SHKIL', P.T., *red.*; CHEBYKIN, N.P., *red.*; MEZENTSEV, S.A., *red.*; MOROZOV, V.S., *red.*; OPLESNIN, I.I., *tekhn. red.*

[Forty years of the Komi A.S.S.R., 1921-1961; studies on the cultural and economic development of the Komi Republic] 40 let Komi ASSR, 1921-1961; ocherki o razvitiu ekonomiki i kul'tury Komi Respubliki. Syktyvkar, Komi knizhnoe izd-vo, 1961. 154 p. (MIRA 14:11) (Komi A.S.S.R.—Economic conditions) (Komi A.S.S.R.—Culture)

DUEL', M.A., kand. tekhn. nauk; GORELIK, A.Kh., inzh.

Determination of programs for automatic starting of turbines units using analog computers. Teploenergetika 12 no.4,13-17 Ap '65. (MIRA 18:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut kompleksnoy avtomatizatsii



"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000516130004-1

GORELIK, A. L.

"Industrial electronics, GEI., 1950.

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000516130004-1"

GORELIK, A. L.

D-52 GORELIK, A. I. Promyshlennaya elektronika (Industrial electronics). Moscow, Gosenergoizdat, 1951. 383p.
DLC TK7815.G6; OUMF No. 2250A; CIA N/5 669.G6;
FPB 520696.

The book contains: 1) A description of physical processes and characteristics of fundamental electronic and ion devices, semi-conductors, rectifiers, and amplifiers, 2) the theory of the operation of fundamental electronic circuits, 3) a description of the operation of complex circuits including many electronic loops applied in industry. The book is designed for engineers and can be used as a textbook. It represents a broadened course of lectures given by the author at the Kharkov Polytechnic Institute.

PHASE I BOOK EXPLOITATION

SOV/1275

Gorelik, Abram L'vovich

Promyshlennaya elektronika (Industrial Electronic's) 2d ed., rev. and
enl. Moscow, Gosenergoizdat, 1958. 462 p. 20,000 copies printed.

Ed.: Borzenko, I.M.; Tech. Ed.: Voronin, K.P.

PURPOSE: The book is approved by the Main Administration of Polytechnical and Machine-building Vuzes of the Ministry of Higher Education, USSR, as a textbook for power- and electrical-engineering vuzes and departments. It may be used as a textbook for a course in industrial electronics and may also be useful to engineering personnel.

COVERAGE: The author describes the physical processes and characteristics of the basic types of vacuum-tube, gas-tube, and semiconductor devices used in industry. He discusses the principle of operation of the basic electronic circuits of rectifiers, amplifiers, oscillators, transistors, and gas-tube devices. He also describes the operation of a number of control systems employing vacuum tubes, transistors, and gas tubes. The book contains a brief survey of the history of electronics beginning with the early 19th century. The autho:

Card 1/13

Industrial Electronics

SOV/1275

thanks members of the chairs of Electrification of Industrial Establishments and Fundamentals of Radio Engineering of the Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina (Khar'kov Polytechnic Institute) for their participation in discussing the material for the text. He also thanks O.A. Mayevskiy, Docent, for reviewing the manuscript and O.A. Kucherenko, Engineer, A.Kh. Gorelik, Engineer, and N.A. Gorelik, student of the KhPI imeni V.I. Lenin, for their help in preparing the text. There are 68 references, of which 63 are Soviet (including 10 translations), 4 English, and 1 Czech.

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PART 1. CIRCUIT COMPONENTS	
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1. Atoms and electrons	17
Card 2/13	

GORELIK, O.-L.

AUTHOR:

O.L. Horyelik

SOV/102-58-2-2/1C

TITLE:

The determination of vertical atmospheric turbulence perturbations
(Pro vyznachennya vertikal'nykh vitrovykh zburen')

PERIODICALS:

Avtomatyka, 1958, No.2, pp. 12-20 (USSR)

ABSTRACTS:

The paper relates to an autopilot design problem, namely the actual frequency spectrum of the random perturbations producing pitching. The spectrum is recorded using the image of the sun recorded in a camera with its axis inclined to the line joining sun and aircraft, in which the film moves continuously (the camera etc. is not described). Equations (1) - (8) relate to this section. The aircraft is treated as a linear dynamic system subject to an input which is a random function of time, and the way in which the results are worked up to yield correlation functions are given. Table 1. gives normalized correlation functions for heights H and speeds v (km/hour). Figs. 3. & 4. reproduce these functions (curves 1), together with the approximating curves 2 (there appears to be an error in either the Table or Figure 4 for v). Table 2 and Figure 5 show the spectral densities of the perturbations as shown by the recorder for these two cases, taken from flights in normal weather in June-August 1956 over the Ukraine. Table 3. gives the spectral density of the perturbations transformed back to the input to the aircraft for the same two cases. The perturbations have their most probable frequency at 0.1 - 0.15 radians/sec; the value at the maximum increases with height. The

Card 1/2

SOV/102-58-2-2/10

The determination of vertical atmospheric turbulence perturbations.

The paper contains 5 figures, 3 tables, 21 equations and 7 references,
4 of which are Soviet.

SUBMITTED: May 4, 1957.

Card 2/2

1. Atmosphere--Turbulence
2. Turbulence--Mathematical analysis
3. Automatic pilots--Design

9,2100 (1153,1385,1482,1329)

28216
S/194/61/000/005/050/078
D201/D303

AUTHORS: Gorelik, A.L. and Senchenko, Ya.I.

TITLE: Controlled semiconductor resistors

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,
no. 5, 1961, 21-22, abstract 5 D171 (Tr. Khar'kovsk.
politekhn. in-ta, 1960, 30, no. 1, 189-202)

TEXT: An experimental study has been made of volt-ampere characteristics of non-linear thyrite resistors (TR). The results are presented in the form of graphs and approximate formulae. The TR were prepared in the form of square plates with four symmetrical pressure welded electrodes. One pair of electrodes placed at the diagonal was connected to the input, the other pair to the output. For the S.C. output the following expression is obtained

$$\frac{I_2}{I_1} = \frac{U_1}{A + BU_1},$$

where I_2 - output current, I_1 and U_1 - input current and voltage,
Card 1/2

Controlled semiconductor resistors

28216
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D201/D303

A and B - constant factors. For practical calculations with $U_1 > 50$ V, an approximate formula is given $I_2 = 10^{-14} U_1^{4.48}$. The properties of TR were also investigated when the voltage source was in the output. Possibilities are shown of using TR as the controlled element in automatic control systems and designing circuits having a variable time constant. [5 references. Abstracter's note: Complete translation] *CK*

Card 2/2

GORELIK, A.L., inzhener-podpolkovnik, kand.tekhn.nauk

Transducer of linear accelerations, Vest. protivovozd. obor.
no.7:18-20 Jl '61. (MIRA 14:8)
(Accelerometers)

GERSHUNSKIY, Boris Somenovich; GORELIK, A.L., kand. tekhn. nauk,
retsenzent; SMIRNOV, V.V., prepodavatel, retsenzent;
BALYASNAYA, A.Ye., red.; MIRONETS, Ye.M., red.

[Principles of electronics and semiconductor technology]
Osnovy elektronnoi i poluprovodnikovoi tekhniki. Kiev,
Izd-vo Kievskogo univ., 1964. 322p. (MIRA 17:10)

1. Zaveduyushchiy kafedro: "Elektronnyye i ionnyye pribory"
Khar'kovskogo instituta gornogo mashinostroyeniya, avtomatiki
i vychislitel'noy tekhniki (for Gorelik). 2. L'vovskiy tekhn-
nikum radioelektroniki (for Smirnov).

149411-65 EMT(d)/EWP(v)/EWP(h)/EWP(b)/EWP(1) Pf-1

ACCESSION NR: AP5007695

S/0256/64/000/002/0067/0070

16

AUTHOR: Goralik, A. L. (Candidate of technical sciences, Engineer,
Lieutenant colonel)

TITLE: Servo systems

SOURCE: Vestnik protivovozdushnoy oborony, no. 2, 1964, 67-70

TOPIC TAGS: servo, servo system 9

ABSTRACT: Material is presented for two lectures to armed service personnel on the principles, construction, and operation of servo systems. These points are briefly touched upon: elements of a feedback automatic-control system; relay-contact "on-off" servos, linear servos with a rate proportional to the error angle; sampled-data servos; selsyn system; maintenance of servo equipment (protection from dust, moisture, cleaning commutators and brushes, etc.). The subjects are described in general and elementary terms. Orig. art. has: 5 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: DC, IE

NO REF Sov: 000

OTHER: 000

Curd 1/1

L 4806-65 JXT(BF)

ACCESSION NR: AP5007251

S/0280/65/000/001/0058/0064

AUTHOR: Gorelik, A. L. (Moscow); Skripkin, V. A. (Moscow)

TITLE: One method of solving the problem of classification of objects or phenomena

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya Kibernetika, no. 1, 1965, 58-64

TOPIC TAGS: classification of objects

ABSTRACT: Indicants of objects or phenomena are expressed as an ordered set of definitive parameters; the latter vary either continuously or discretely, from one object to another, depending on the nature of the objects. Breaking up the objects into m classes is equivalent to singling out m regions in a space. Successive statistical decisions, with an increasing number of indicants, are considered, and convergence of such a procedure is proven. Also, a method is suggested for evaluating the indicants of the items to be classified. More divisive

Card 1/2

L 48806-55

ACCESSION NR: AP5007251

indicants must be used first when a time deadline is set for the process of classification. A principle for building a statistical classification model is formulated. Orig. art. has: 32 formulas.

ASSOCIATION: none

SUBMITTED: 30Apr64

ENCL: 00

SUB CODE: DP

NO REF SOV: 001

OTHER: 002

Cord. 2/2

GORELIK, A.M.; RIBOLOVLEV, R.S.; TANK, L.I.; MOREVA, Ye.V.; LAZOVSKAYA, A.V.

Pharmacology and Toxicology Section of the Leningrad I.M. Sechenov Society
of Physiologists, Biochemists, and Pharmacologists. Farm.i toks. 16 no.1:
60-62 Ja-F '53. (MLRA 6:6)

1. VMA (for Gorelik). 2. Pervyy Leningradskiy meditsinskiy institut (for
Gorelik, Rybolevlev). 3. IIM (for Tank, Moreva and Lazovskaya).
(Pharmacology--Societies) (Physiology--Societies) (Biochemistry--
Societies)

GORELIK, A.M.; ROZHKOV, V.M., professor, nachal'nik.

Non-efficacy of subcutaneous and intramuscular administration of lobeline
and "cytitone." Farm. i toks. 16 no.2:22-24 Mr-Apr '53. (MLRA 6:6)

1. Kafedra toksikologii I Leningradskogo meditsinskogo instituta imeni
akademika I.P. Pavlova. (Stimulants)

GORELIK, A.M.

GORELIK, A.M.

Inefficiency of subcutaneous and intracutaneous lobeline and cytotoxins; experiments on animals with depressed respiration. Farm i toks. 20 no.3:86-87 My-Je '57. (MIRA 10:10)

1. Kurs toksikologii (zav. - prof. M.Ya.Mikhel'son) I Leningradskogo meditsinskogo instituta imeni I.P.Pavlova.

(RESPIRATION, effect of drugs on,

Cytisus laburnum alkaloid, & lobeline, subcutaneous & intramusc.admin. (Rus))

(LOBELINE, effects,

on resp., subcutaneous & intramusc. admin. (Rus))

(ALKALOIDS, effects,

Cytisus laburnum alkaloid, on resp., subcutaneous & intramusc.)

GORELIK, A. M.

GORELIK, A. M. -- "INVESTIGATION OF THE EFFECT OF KINEMATIC LAYOUT AND STRUCTURAL PARAMETERS OF THE SUSPENSION SUPPORTS ON THE STABILITY OF AN AUTOMOBILE." SUB 22 MAR 52, SCI COUNCIL OF STATE SCI RES AUTOMOBILE AND AUTOMOTIVE INST (KAMI) (DISSERTATION FOR THE DEGREE OF CANDIDATE IN TECHNICAL SCIENCES)

SO: VZCHERNAYA MOSKVA, JANUARY-DECEMBER 1952

ГАРАНТИЯ.

GORELIK, A.M., inzhener; OSIPYAN, A.V., kandidat tekhnicheskikh nauk; otvet-stvennyy redaktor; ZIL'BERBERG, Ya.G., inzhener; BRILING, N.R., doktor tekhnicheskikh nauk, professor; KALISH, G.G., doktor tekhnicheskikh nauk, professor; MEZIN, I.S., doktor tekhnicheskikh nauk; PEVZNER, Ya.M., doktor tekhnicheskikh nauk; KHRUSHCHEV, M.M., doktor tekhnicheskikh nauk, professor; BRYZGOV, N.N., kandidat tekhnicheskikh nauk; KOZLOVSKIY, I.S.; kandidat tekhnicheskikh nauk; LYTKIN, I.I., kandidat tekhnicheskikh nauk; RAMAYYA, K.S., kandidat tekhnicheskikh nauk; BUTYLMIN, A.G., tekhnicheskiy redaktor; MATVEYEVA, Ye.N.; tekhnicheskiy redaktor.

The effect of vertical forces on automobile wheels. Trudy NAMI no.65:1
'52. (MIRA 8:11)

1. Direktor NAMI (for Osipyan)
(Automobiles--Wheels)

1. GORELIK, A. M.; PEVZNER, Ya. M.
2. USSR (600)
4. Stability
7. Testing the automobile for steadiness and careening. Avt. trakt. prom. No. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953. Unclassifie

DYMSHITS, I.I., kandidat tekhnicheskikh nauk; GORELIK, A.M., kandidat
tekhnicheskikh nauk.

"Structural strength under irregular systems of alternating
stresses." Reviewed by I.I. Dymshits, A.M. Gorelik. Avt.i trakt.
prom. no.12:29-30 D '55. (MLRA 9:3)

1. Nauchno-issledovatel'skiy avtomotornyy institut.
(Automobiles--Transmission devices) (Strains and stresses)

GORELIK, A.M., kandidat tekhnicheskikh nauk.

Determining the life of springs. Avt. tract. prom. no. 2:26-32
F '57. (MLRA 10:3)

1. Nauchno-issledovatel'skiy avtomobil'nyy institut.
(Automobiles--Springs)

Gorelik, A.M.

sov/138-59-4-21/26

AUTHOR: Guslitser, R.L.

TITLE: An All-Union Research and Technical Meeting on Car
Suspensions (Vsesoyuznoye nauchno-tehnicheskoye
soveshchaniye po podveskam avtomobiley)

PERIODICAL: Kauchuk i Rezina, 1959, Nr 4, p 54 (USSR)

ABSTRACT: The meeting was held from 16th to 19th February, 1959 at
the Nauchno-issledovatel'skiy avtomobil'nyy i avtomotor-
nyy institut (Research Institute for Automobiles...
and Buses, NAMI). Representatives of car factories,
research institutes and members of teaching institutes
heard 24 lectures and reviews. The chief designer of
NAMI, A.A. Lipgart, reviewed improvements in car suspen-
sions, and many papers dealt with rubber-pneumatic suspen-
sions. A.M. Gorelik (NAMI) discussed pneumatic rubber-
cord suspensions, drawing attention to their advantages,
and also spoke of their use abroad. R.A. Akopyan (IAZ)
referred to their adoption in public transport e.g. in

Card 1/2

SOV/138-59-4-21/26

An All-Union Research and Technical Meeting on Car Suspensions
the bus LAZ-695E. V.A. Galashin (MVTU) reviewed the
work on rubber-cord diaphragms for car suspensions,
which has been carried out in the Leningrad Tyre
Factory, and the work of MVTU im. Bauman. Further
lectures were read by R.L. Guslitser (NIIShP), M.G.
Parkhilovskiy (GAZ), V.B. Tsimbalin etc. which dealt
with experimental work on car suspension, their efficiency
under various conditions etc. R.V. Rotenberg's dis-
cussion on the use of computers for engineering calcul-
ations was of outstanding interest. Ya. M. Pevzner
discussed the road-holding properties of cars.

Card 2/2

12(2)

SOV/113-59-7-16/19

AUTHOR: Gorelik, A. M., Candidate of Technical Sciences

TITLE: Elastic Elements of Pneumatic Suspensions

PERIODICAL: Avtomobil'naya promyshlennost', 1959, Nr 7, pp 40 -45
(USSR)

ABSTRACT: Various types of elastic elements of pneumatic suspensions are listed and described briefly for round, oblong and diaphragm types. Round elastic elements are most suitable for mass production. In addition, they have the longest service life. Their natural oscillation frequency is 80 oscillations per minute. They may be recommended for application in buses and trucks. Oblong pneumatic elements are complicated and expensive in production. They may find application only in trucks and trailers of great load capacity. Pneumatic springs with low oscillation frequencies have the best chances for future applications.

Card 1/2

SOV/113-59-7-16/19

Elastic Elements of Pneumatic Suspensions

They may be recommended for light automobiles. It will be necessary to start the production of pneumatic springs for buses and trucks in the near future. The article is based on foreign publications and data of Western manufacturers Dunlop, Continental, MAN, Henschel, and others. There are 2 photographs, 10 diagrams, 8 graphs, 3 tables and 6 Non-Soviet references.

Card 2/2

GORELIK, A.M., kand.tekhn.nauk; PEVZNER, Ya.M., doktor tekhn.nauk

Automatic regulators of the position of a body with pneumatic
suspension. Avt.prom. 28 no.10:16-21 0 '62. (MIRA 15:9)

1. Gosudarstvennyy soyuznyy ordena Trudovogo Krasnogo Znameni
nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut.
(Automobiles--Equipment and supplies)

GORELIK, A.M., kand.tekhn.nauk; PEVZNER, Ya.M., doktor tekhn.nauk

Pneumatic flexible elements made of rubberized cord. Avt.prom.
28 no.11:21-29 N '62. (MIRA 16:1)

1. Gosudarstvennyy soyuznyy ordena Trudovogo Krasnogo Znameni
nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyj institut.
(Motor vehicles—Pneumatic equipment)

GORELIK, A. M.; NESTERENKO, I. P.; RYAPOLOVA, V. A.

Use of micrologging to study water wells. Razved. i okh. nedr
28 no. 6:54-56 Je '62. (MIRA 15:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut transportnogo
stroitel'stva.

(Logging(Geology)) (Water, Underground)

GORELIK, A. M., kand. tekhn. nauk; DRUZHININ, M. K., inzh.

"Instructions for engineering geology studies in surveying
new lines, second tracks, reconstruction and railroad electri-
fication." Reviewed by A. M. Gorelik, M. K. Druzhinin. Transp.
stroi. 13 no.4:73-74 Ap '63. (MIRA 16:4)

(Railroads—Surveying)
(Engineering geology)

PEVZNER, Ya.M.; GORELIK, A.M.; GOL'D, B.V., doktor tekhn.nauk,
retsenzent; GOL'FGAT, D.B., kand. tekhn. nauk, red.;
NAKHIMSON, V.A., red.ind-va; EL'KIND, V.D., tekhn. red.

[Air and hydropneumatic suspensions] Pnevmaticheskie i
gidropnevmaticheskie podveski. Moskva, Mashgiz, 1963.
318 p. (MIRA 16:8)

(Motor vehicles--Springs)

GORELIK, A.M., kand.tekhn.naukij BARANOV, A.A.

Regulator of body position for air springs. Avt.prom. 29 no.9:
44-45 S '63. (MIRA 16:9)
(Motor vehicles--Equipment and supplies)

GORELIK, A.M., kand. tekhn. nauk

Single-leaf springs. Avt. prom. 31 no.1:26-33 Ja '64. (MIRA 18:3)

1. TSentral'nyy ordena Trudovogo Krasnogo Znameni nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut.

GORELIK, A. M.

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GORELIK, A.M.

GORELIK, A.M., kandidat tekhnicheskikh nauk; METUNAKHIN, V.I., nauchnyy
sootrudnik

Electric measurement method of determining direction and speed of
ground waterflow. Tekh.shel.dor.7 no.6:13-14 Je'48. (MIRA 8:11)
(Water, Underground)

PA 152150

GORELIK, A. M.

USSR/Geology - Geoprospecting
Ground Waters

Oct 49

"Electrometric Determination of the Direction and
Speed of Underground Flow Using One Hole," A. M.
Gorelik, Cand Tech Sci, 1 1/2 pp

"Gidrotekh Stroi" No 10

Problem of determining speed and direction of sub-
terranean waters often arises in geological prospect-
ing. Shows how it can be solved by drilling a hole,
lowering a feeder electrode, and following the move-
ment of the equipotential lines. Includes two graphs.

152T36

GORELIK, A. M. and SAKHAROVA, M. P.

"Primenenie Elektrorazvedki Pri Indzenerno- Geologicheskikh Izuskaniyakh na Dzeleznukh Dorogakh" (Application of Electro-Reconnaissance during Engineer- Geological Res. on Railroads), 157 p., State Railroad Transportation Publ. House, Moscow, 1951.

1. GORELIK, A. M.

2. USSR (600)

4. Water, Underground

7. Electrometric determination of the direction and speed of underground waters
in a well. Trudy Lab. gidrogeol. probl., 1951.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

GORELIK, A. M.

PA 237T49

USSR/Geophysics - Underground Water Nov/Dec 52

"Determination of the Direction of Flow of Subterranean Waters by Observation of the Electrical Field of Filtration," A.M. Gorelik, All-Union Sci-Res Inst of RR Construction and Planning

"Iz Ak Nauk SSSR, Ser Geofiz" No 6, pp 55-56

Describes method of detg direction of underground flow in river valleys by observation of the surface elec filtration field. Presents exptl data. Work was conducted in valleys of mountain rivers where the bottom-land terrace ranged from 500 to 1000 m.

237T49

USSR/Geophysics

Card 1/1

Pub. 44 9/19

FD-2579

Author

: Gorelik, A. M.

Title

: Interpretation of Electric sounding curves in the search for
water at shallow depths

Periodical

: Izv. AN SSSR, Ser. geofiz, Jul-Aug 55, 364-368

Abstract

: The author concludes from field investigations that it is expedient
to change the method of vertical electric sounding in the search
for water at shallow depths. He states that electrometric study
of wet-lithologic profiles, the support curves serving as "pallet"
curves (curves on a transparent sheet divided into squares), and
qualitative analysis of the obtained data should be employed for
the interpretation of field observations.

Institution

: All-Union Scientific-Research Institute of Railroad Construction
and Planning

Submitted

: April 8, 1954

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000516130004-1

GORELIK, A.M.; NESTERENKO, I.P.

Using the electrical field of filtration for determining the radius
of the cone of depression during pumping from wells. Izv. AN SSSR.
Ser. geofiz. no.11:1361-1363 N '56.
(Water, Underground) (MLRA 10:1)

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000516130004-1"

GORELIK, A.M., kand. tekhn. nauk

Field laboratories for planning and building organizations.
Transp. stroi. 8 no.1:30-31 Ja '58. (MIRA 12:12)
(Soil research)

DRUZHININ, M.K.; GORELIK, A.M.

Depth of foundations to be laid on heaving soils. Osn., fund. 1
mekh. grun. no. 4:22-24 '59.. (MIRA 12:10)
(Foundations)

GORELIK, A.M., kand. tekhn. nauk; SAMARIN, S.S., inzh.; FLOROVA, A.F.,
inzh.

X-ray equipment used for determining the mineral composition
of clays. Transp. stroi. 9 no. 4:55-56 Ap '59.

(X rays--Equipment and supplies) (Clay--Analysis) (MIRA 12:6)

GORELIK, A.M., kand.tekhn.nauk; DRUZHIMIN, M.K., inzh.

Determining the shear strength of soils under natural
conditions. Transp.stroi. 9 no.10:55-57 O '59.

(Soil mechanics)

(MIRA 13:2)

GORELIK, A.M.; DRUZHININ, M.K.

Rotary device designed by the Central Communications Research Institute-1 for determining the shear strength of soils in field testing. Osn., fund. i mekh. grun. 2 no.5:22-23 '60.
(Clay--Testing) (MIRA 13:9)

GORELIK, A. M., kand. tekhn. nauk; IOSIL'EVICH, V. A., inzh.

Instrument for the field testing of soils. Transp. stroi. 10 no. 9:54
S '60. (MIRA 13:9)
(Soils--Testing)

GORELIK, A.M., kand.tekhn.nauk; CHUKHNOVA, A.N., inzh.

New units for testing soil. Transp. stroi. 10 no.11:44-45 N '60.
(MIRA 13:11)
(Soil mechanics)

GOTTLIK, A.M., kand.te'dim.nauk; D.ZHANIN, N.K., inzh.

Mechanization of prospecting in surveying and constructing railroads.
Transp. stroi. ll no.2:35-39 p '61. (M A L'')

(Railroads—Surveying)

(Boring machinery)

DRUZHININ, M.K., inzh.; GORELIK, A.M., kand.tekhn.nauk

Testing weak soils in the field. Transp. stroi. 11 no.8:
35-37 Ag '61. (MIRA 14:9)
(Soil mechanics)

GORELIK, A.M.; NESTERENKO, I.P.; RYAPOLOVA, V.A.

Determination of the coefficient of flow in water-bearing
rocks by electrometric methods. Razved. i okh. nedr 27 no.6:
33-37 Je 61. (MIRA 14:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut transportnogo
stroitel'stva.
(Water, Underground) (Electric prospecting)

ACC NR: AP6035894

SOURCE CODE: UR/0413/66/000/020/0130/0130

INVENTOR: Nikanorov, V. P.; Gorshenin, Yu. V.; Burnshteyn, V. L.; Gorelik, A. M.

ORG: None

TITLE: A two-channel seismic station. Class 42, No. 187334 [announced by the All-Union Scientific Research Institute of Transport Construction (Vsesoyuznyy nauchno-issledovatel'skiy institut transportnogo stroitel'stva)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 130

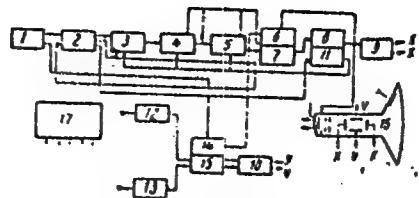
TOPIC TAGS: seismologic station, nonelectric signal equipment, seismic wave

ABSTRACT: This Author's Certificate introduces a two-channel seismic station which contains seismic signal detectors, signal amplifiers, units for reading out the travel time of elastic waves in the given medium, a channel commutator, a cathode ray tube wave pattern display with image persistence, and a power supply. Recording quality is improved and time readout accuracy is increased at any point of the recording by connecting a master oscillator to the channel commutator and a unit for killing the retrace of the cathode ray tube through a flip-flop which sets the commutation frequency.

Card 1/2

UDC: 550.340.19:534.647

ACC NR: AP6035894



1—master oscillator; 2—electronic switch; 3-5—scaler decades; 6—retrace killer; 7—flip-flop unit; 8—sawtooth voltage generator; 9-10—final amplifiers; 11—discharge circuit; 12-13—preamplifiers; 14—flip-flop; 15—commutator; 16—cathode ray tube; 17—power supply

SUB CODE: 09 08 SUBM DATE: 14Oct65

Card 2/2

TEN EN SEB; GORELIK, Adolf Pavlovich; KRIVONOSOVA, N.A., red.;
BABAKHANOV, A., tekhn.red.

[Today and tomorrow on the "Poliarnaia zvezda" Collective
Farm] Segodnia i zavtra kolkhoza "Poliarnaia zvezda."
Tashkent, Gosizdat UzSSR, 1963. 46 p. (MIRA 17:1)

YAREMENKO, N.N. inzh.; GORELIK, A.S., inzh.

Precast reinforced concrete construction of the casting yard
area of the no.2B blast furnace of the Stalin metallurgical plant.
Bul. stroi. tekhn. 15 no.8:14-17 Ag '58. (MIRA 11:9)

1. Giprostal'.

(Blast furnaces) (Precast concrete construction)

34985
S/190/62/004/003/005/023
B110/B144

53830
AUTHORS: Likhterov, V. R., Etlis, V. S., Razuvayev, G. A.,
Gorelik, A. V.

TITLE: Unsymmetrical organosulfonic acyl peroxides as initiators
of vinyl polymerization

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 3, 1962, 357-360

TEXT: Unsymmetrical organosulfonic acyl peroxides were synthesized by
interaction of the Ba salt of perbenzoic acid (from NaOOCOC₆H₅ and BaCl₂)
with 75 % molar excess of the corresponding sulfochloride in the presence
of an equimolecular water amount in the range 0 to 5°C:

$2RSO_2Cl + Ba(COCOC_6H_5)_2 \xrightarrow{H_2O} 2RSO_2OOOCOC_6H_5 + BaCl_2$. The following
compounds were obtained: benzoyl methane sulfonyl (CH₃SO₂OOOCOC₆H₅) (I),
benzoyl ethane sulfonyl (C₂H₅SO₂OOOCOC₆H₅) (II), benzoyl propane-1-sulfonyl
(C₃H₇SO₂COOCOC₆H₅) (III), benzoyl propane-2-sulfonyl (iso-C₃H₇SO₂OOOCOC₆H₅) (IV)

Card 1/2

Unsymmetrical organosulfonic acyl...

S/190/62/004/003/005/023
B110/B144

with yields of 43 %, 60 %, 32.7 %, 35 %, melting points 54, 46.5, 24, 49°C, active oxygen content 7.26, 6.80, 6.42, 6.35 %. Since benzoyl benzyl sulfonyl could not be separated in a pure state, the yield (28.5 %) was titrated iodometrically. Crystalline peroxides are well soluble in organic solvents except alcohols and hydrocarbons. Free from acid chloride, they can be kept for months at temperatures from -5 to 0°C. They fuse in the process of decomposition. They disengage iodine from acidulated KI solution and are decomposed by sulfochlorides. In order to determine the initiating action of II and IV (concentration: 0.004 mole/liter), the methyl methacrylate polymerization was investigated by dilatometry ✓ at different temperatures, and a considerably greater activity was established than that of benzoyl peroxide. Constants of polymerization rate at 20, 35, 45°C for II: 3.65, 17.50, 35.50 mole^{0.5}liter^{0.5}.sec⁻¹; for IV: 4.87, 19.00, 46.20 mole^{0.5}liter^{0.5}.sec⁻¹. Activation energy for II: 19.7; for IV: 17.3 kcal/mole. There are 1 figure, 2 tables, and 8 references: 2 Soviet-bloc and 6 non-Soviet-bloc. The two references to English-language publications read as follows: L. W. Crovatt, R.K. McKee, J. Organ. Chem., 24, 2031, 1959; I. B. Johnson, I. B. Douglass, J. Amer. Chem. Soc., 61, 2548, 1939.

SUBMITTED: February 17, 1961
Card 2/2

GORELIK, B.

B

1889. EPIC OF THE TRANS-ARCTIC COALFIELD. *Gorelik, B.* (Soviet News, 6 Apr. 1946, No. 1416, 3). Coal was discovered in the area between the Pechora River, the northern Urals and the Barents and Kara Seas in 1919 and geologists confirmed enormous reserves of excellent quality. In 1931 building commenced, the only communication with the area being by radiotelegraphy. The thousand mile North Pechora Railway was completed during the war. Now millions of tons of coking coal are being extracted annually to supply Leningrad, Archangelsk, Beloozero, the railway and ships in the northern rivers and the Arctic Sea. It is estimated that the area holds second place in Europe after the Donbas for its reserves.

A38-516 METALLURGICAL LITERATURE CLASSIFICATION									
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SUBJECTIVE INDEX ONE									
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GORELIK, B.

In the struggle for technical progress. Sov.profsoiuzy 7 no.8:
12-13 Ap '59. (MIRA 12:7)
(Minsk--Tractor industry)

GORELIK, B.A.

Chemical processing of wood residues. Gidreliz. i lesokhim. prom. 9
no.2:16 '56. (MIRA 9:7)

1.Glavnyy khimik Lebvin'skogo gidrolyzjnogo zavoda.
(Wood waste)

GORELIK, B.A.; ZUYEV, N.S.

Improve the work of plant laboratories. Gidroliz, i lesokhim.
prom. 10 no.2:24-25 '57. (MLRA 10(5))

1. Lobvinskiy gidrolyznyy zavod.
(Chemical laboratories)

GORELIK, B.A.; KARASIK, Ye.L.

Forced circulation of fermenting liquid. Gidroliz, i lesokhim.
prom. 10 no.3:20-21 '57. (MLRA 10:5)

1. Lobvinskij gidroliznyj zavod.
(Yeast) (Fermentation)

ZUYEV, N.S.; GORELIK, B.A.

Let us reduce hydrolyzate losses. Gidroliz.i lesokhim.prom.
10 no.4:23 '57. (MLRA 10:?)

1. Lobvinskiy gidroliznyy zavod.
(Hydrolysis)

(GORELIK, B.A.)

DAYNEKO, Z.N.; GORELIK, B.A.; BEL'KOVA, Ye.A.; YARESHCHENKO, A.M.

Lighten the work of the chief cooker operator. Gidroliz. i lesokhim. prom.
10 no.8:21-22 '57. (MIRA 10:12)

1. Bobruyskiy gidroliznyy zavod.
(Hydrolysis)

SKRYGAN, A. N. [Skryhan, A. I.]; BELEN'KAYA, T. V.; SHISHKO, A. M. [Shyshko, A. M.];
VALOZHIN, A. I. [Valozhin, A. I.]; GORELIK, B. A. [Gorelik, B. A.];
MOROZOVA, L. V. [Marozava, L. V.]

Composition of adubin and its use in the production of furfural.
Vestsi AN BSSR. Ser. fiz.-tekhn. nay. no.3:56-63 '59.
(MIRA 13:3)

(Furaldehyde) (Oak)

GORELIK, Boris Isaakovich; REGINYA, L., red.; KODANOV, P., tekhn.red.

[Over northern roads] Po dorogam severa. Syktyvkar, Komi knizhnoe
izd-vo, 1957. 71 p. (MIRA 12:1)
(Komi A.S.S.R.--Description and travel)

GORELIK, G.I.

NAME & BOOK INFORMATION

SOW/449

Pravdicheskij po mehanicheskym vlastejm materialam, tom 1: Neorganicheskie materialy (Handbook on Nonmetallic Building Materials, Vol. 1: Inorganic Materials)

Moscow, Naukova Dumka, 1960. 763 p. Printed also in English. 10,000 copies printed.

M.: O.I. Prudnikovskij, Doctor of Technical Sciences, Professor; Ed. of the

Vols. A.M. Lurie, Doctor of Technical Sciences, Professor; Ed. of Publishing

House V.I. Krylova, Engineer; Tech. Ed. I.J. Sosulin; Managing Ed. for

Information Literature (Handbook); I.M. Monastyrskij, Publisher.

PURPOSE: This book is intended for machine-building and construction engineers,

architects, and other persons interested in the properties of building materials.

CONTENTS: This is the fourth of a bilingual Handbook on Machine-Building Materials. Volume 1 discusses nonmetallic materials suitable for use in machine building and in other constructional applications. Tinplate, wood, plastic, ceramic, rubber, and glass materials and qualities of these materials are reviewed and data on their physical and mechanical properties are listed. No personalities are mentioned. Increases fully additional chapters.

Author(s)

Handbook on Manufacturing Materials (Cont.)

007/2010

Methods of testing and quality control of various
chemical, metallic, and
nonmetallic materials

Properties of various materials

The effect of various factors on the physical, mechanical, and
electrical properties of plastics

Dr. V. "Rubber Materials (Influence of Temperature, Pressure, Humidity, Radiation, Candidates
of Technical Sciences; V. A. Karpov, Candidate of Technical Sciences;
and V. A. Gerasimov, Candidate of Technical Sciences)

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Card 7/13

Handbook on Machine-Building Materials (Cont.)

SOV/4419

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GORELIK, B. M.

GORELIK, B. M. -- "INVESTIGATION OF HEAT GENERATION DURING HARMONIC TORSION OF RUBBER-METAL BONDS." SUB 3 Nov 52, Moscow Inst of Fine Chemical Technology (MENI N. V. LOMONOSOV) (DISSERTATION FOR THE DEGREE OF CANDIDATE IN TECHNICAL SCIENCES)

SO: VECHERNAYA MOSKVA, JANUARY-DECEMBER 1952

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GORETTE B M

FBI - Familiarities of vulcanized rubber as a struc

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SOV/81-59-12-44316

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 12, p 497 (USSR)

AUTHOR: Gorelik, B.M.

TITLE: The Heat-Generation in Frequent Deformations of Rubber-Metal Hinges

PERIODICAL: Tr. N.-i. in-ta rezin. prom-sti, 1956, Nr 3, pp 19-28

ABSTRACT: The analytic solution of the problem of heat-generation in the rubber element of a rubber-metal hinge is based on the following premises: 1) the rubber is homogeneous and isotropic; 2) the specific heat-capacity C and the heat-conductivity λ_2 of the rubber do not depend on the temperature T_p ; 3) the losses of mechanical energy due to hysteresis are proportional to the work accomplished in deformation; 4) the heat is evolved uniformly throughout the whole rubber volume, independent of the time; 5) the shear module G and the relative hysteresis in the range of small frequencies, small amplitudes and positive temperatures do not depend on the temperature, time, frequency and amplitude of deformations; 6) the thickness of the rubber element h is small compared to the length L . The enumerated premises permit to ob-

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The Heat-Generation in Frequent Deformations of Rubber-Metal Hinges

tain the solution of the differential equations for heat conductivity derived for a cylindrical three-component system of steel cylinder-rubber interlayer-steel cylinder. If λ_1 , λ_3 are the coefficients of the heat-conductivity of the metal, r_1 , r_2 , r_3 , r_4 are the radii of the contiguous cylinders, H_1 and H_2 are the relative coefficients of the heat transfer of the metal to the surrounding medium, T_4 and T_5 are the temperatures of the surrounding medium at the inner and the outer cylinders, then the intensity of the heat source $b = An\eta NG\theta^2/\pi(r_3^2 - r_2^2) L \lambda_2$; where θ is the oscillation amplitude, n is the frequency of the oscillations in cycles, η is the relative hysteresis coefficient, A is the mechanical heat equivalent. For the stable temperature developing in the rubber element of the hinge we obtain the equation:

$$T_p = T_5 + 0.25b(r_3^2 - r_2^2) - 0.5br_2^2 \ln r_3/r - 0.5b(r_3^2 - r_2^2) - n_2^{-1}(\ln r_3 - C + C_1(n_1 + n_2^{-1}\ln r_3 - n_1\ln r_3/r - C_2n_2^{-1})),$$

$$\text{where } C_1 = \left\{ T_5 - T_4 + 0.25b \left[(r_3^2 - r_2^2) (1 - 2n_2^{-1} \ln r_3 + 2n_2^{-1}C_2) - 2r_2^2 \ln r_3/r \right] \right\} \left[\ln r_2(1 - n_1) + (1 - H_1r_1 \ln r_1)/H_1r_1 + \ln r_3 (n_1 - n_1/n_2) + n_1n_2^{-1}C_2 \right]^{-1};$$

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The Heat-Generation in Frequent Deformations of Rubber-Metal Hinges

$$n_1 = \lambda_1/\lambda_2; n_2 = \lambda_3/\lambda_2; c_2 = (1 + H_2 r_4 \ln r_4)/H_2 r_4; r \text{ is the radius-vector.}$$

The analysis of the obtained equation shows that the temperature developing in the rubber element of the hinge is determined by the value of b , i. e. by the quantity which is proportional to the area of the hysteresis loop. The maximum temperature can develop at various points of the rubber element of the hinge depending on the conditions of cooling. In the case that the metal pin is isolated and not cooled separately, the maximum temperature develops at the joint of the rubber and the surface of the metal pin. For increasing the service time of rubber-metal parts it is necessary to use rubbers having small values of relative hysteresis and shear module and high coefficients of heat conductivity. In the designing of such parts the values $r_1, r_2, r_3, r_4, n, \theta, L, G$ and η should be chosen in such a way that the maximum temperature developed in the rubber element of the hinge does not exceed the admissible limits and ensures the needed wear-resistance of the products.

R. Torner

Card 3/3

GORELIK, B.M.

GORELIK, B.M.; RATHER, A.V.

Means for increasing the output of molded articles from vulcanization
presses. Kauch.i rez. no.1:36-42 Ja '57. (MLRA 10.4)
(Rubber industry--Equipment and supplies)
(Vulcanization)

SOV/81-59-16-59305

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 16, p 516 (USSR)

AUTHOR: Gorelik, B.M.

TITLE: The Experimental Investigation of the Temperature Increase in the Rubber Element of a Hinge at Repeated Twisting

PERIODICAL: Tr. N.-i. in-ta rezinovoy prom-sti, 1957, Vol 4, pp 125-133

ABSTRACT: The destructive action of periodic stresses is connected in a high degree with an increase in the temperature of the product. The experiment was carried out with the aim of verifying the correctness of the calculation formula, proposed earlier (see RZhKhim, 1959, Nr 12, 44316), which related the increase in the temperature of the operating rubber hinge with the physical-chemical properties of the rubber, the geometric parameters, the amplitude and the frequency of the deformations, and also with the conditions of the heat transfer to the medium. The calculated and the experimental dependence of the temperature increase on the frequency (in the range of 100-400 cycles/min) and the amplitude (+ 0.131 - + 0.349 radian) of the twisting oscillations was compared. The temperature of the

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The Experimental Investigation of the Temperature Increase in the Rubber Element of a Hinge at Repeated Twisting

operating hinge depends linearly on the frequency and on the square of the amplitude of deformation. In the analysis of the temperature field in the hinge it has been established that under usual conditions the maximum temperature is observed at the joint of the rubber and the inner metal cylinder. It has been confirmed by experiment that the calculation of the steady temperature field can be carried out by the proposed formula within the limits of admissible tolerance.

Ye. Vostroknutov.

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GORELIK, B.M.

GORELIK, B.M.; MAYZEL'S, M.G.; PARSHINA, Ye.A.

High-temperature vulcanization of rubberized cloth by means of
infrared rays. Kauch.i rez.16 no.9:1-9 S '57. (MIRA 10:12)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.
(Infrared rays—Industrial applications) (Vulcanization)

SOV/138-59-2-9/2⁴

AUTHORS: Gorelik, B. M., Chelyshev, V. V., Mal'chikova, Ye. V.
and Korunova, A. D.

TITLE: Manufacture of Rubber Tube, Profiles and other Extruded Products by a Continuous Process (Nepreryvnnyy protsess izgotovleniya rezinovykh trubok, profil'nykh i drugikh shpritsovannykh izdeliy)

PERIODICAL: Kauchuk i rezina, 1959, Nr 2, pp 30-34 (USSR)

ABSTRACT: Extruded rubber products are usually vulcanized in batches in autoclaves, which process takes several hours. Continuous vulcanization of extruded products can be carried out in solutions containing SO₂, as well as in long vulcanization chambers using high pressure steam and subsequently cooling the extruded products with water at the same pressure. This method is not possible with tubes owing to the difficulty of maintaining equal pressure inside and outside the tube. Vulcanization without, or with, low pressure can lead to pore formation. This tendency can only be partially reduced by subjecting the rubber mix to vacuum or by extruding it at Card 1/3 temperatures of 110° or 120°C, which suggests that the

SOV/138-59-2-9/24

Manufacture of Rubber Tube, Profiles and other Extruded Products
by a Continuous Process

reason for porosity is to be found through volatiles, particularly where vaseline oils are used in the mix, with much higher boiling point than water. It was found that the introduction of 5 to 10% of pure CaO into the mix absorbed these volatiles. Satisfactory results were obtained by introducing crushed lime into the mix and by extruding the tubes at temperatures of 100° to 110°C. Thus the question of vulcanization without pressure was solved. Since extrusion proceeds at 5 to 8 m/min, it is necessary to achieve vulcanization within 2 to 3 mins. This is only possible with ultra-rapid accelerators and with temperatures of the order of 200°C. To prevent pre-vulcanization various modifiers are required. A formulation, based on SKS-30 rubber with colophony, lime, Altax, "n-Extra-n", as well as with usual fillers, is given. This gives tubes with a smooth surface and which do not adhere to metallic surfaces during vulcanization without pressure in air medium at 200°C, and which have low cost. The extrusion plant Card 2/3 is shown in Fig 6. The extrusion machine has a worm

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Manufacture of Rubber Tube, Profiles and other Extruded Products by a Continuous Process

(endless screw) of 115 mm diameter and is driven by a 40.5kW electric motor. The extrusion speed can be varied by changing the number of revolutions of the worm between the limits of 15 to 30 r.p.m. The vulcanizing tunnel consists of two steel tubes one upon another which are 273 mm x 10 mm diameter and 15 m long, fed with hot air from calorifiers and heated further with electric elements whose spiral wire is mounted on the surface of the tubes. The extruded tube is taken through on a belt conveyor. To increase the efficiency, the extrusion machine is equipped with a triple extruder head and the vulcanized tube is subsequently cooled to 40°C by water spray.

There are 6 figures and 6 references, 1 of which is Soviet, 4 English, 1 German.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific-Research Institute for the Rubber Industry)

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S/138/59/000/010/003/010
A051/A029

AUTHORS: Gorelik, B.M.; Tikhonovich, L.V.

TITLE: On the Application of Granulated Rubber Mixtures in Molding Technique

PERIODICAL: Kauchuk i Rezina, 1959, No. 10, pp. 17 - 20

TEXT: An investigation into the technology of rubber mixture granulation applied in the molding of various rubber articles was carried out. The advantages of using granulated rubber mixtures in the technique of molding consist in the following facts: facilitation of transportation, automatic weighing, storage and an accurate measurement of the material being supplied to the press-die. Granulated rubber mixtures would also decrease the amount of waste material from the pressing stage, which can be as high as 50 to 70% in some of the rubber article plants. The number of stages in the production cycle are decreased. The low density between the granules would enable the air to escape in the molding of the articles. Finally, it simplifies the entire procedure and saves on material and general costs. Three types of mixtures were subjected to granulation in the experiments: 1) based on butadiene-nitrile rubbers [No. 4004-1, 3825, 4326, ИРП-

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A051/A029

On the Application of Granulated Rubber Mixtures in Molding Technique

1068 (IRP-1068)]; 2) based on CKC-30 (SKS-30) and CK6 (SKB) (No. 4773, 7008); 3) based on polychloroprene (No. 2542 H-3 (N-3), 4908). Extruders were used for the granulation technique, fitted with granulating heads of the end plane type, with a 150 an 115 mm worm diameter (see Fig. 1). The 150 mm extruder was manufactured at the "im. Krasin" Plant. The granulating heads were designed and manufactured at the NIIRP. The actual granulating procedure is described as well as the granulating of the hard nitrile mixtures. Each of the three types of mixtures used in the experiments is dealt with individually. The technology parameters for granulation of these mixtures were derived. Table 2 is a listing of the thermal conditions of the granulation process for rubber mixtures based on butadiene-nitrile rubbers. The mixtures considered in this group were IRP-1068, 4004-1, 3825 with a vulcanizate hardness from 75 to 90, according to Shore, and 4326 with an average flexibility and hardness of 65 to 70, according to Shore. The composition of the mixtures is given in Table 1. It is pointed out here that all the mixtures were granulated without using ashing mediums, and in order to store the granules one should apply a special packing material having an adjustment for mechanical mixing or shaking. The granulation output for these hard mixtures was found to be 100 - 110 kg/h for the IRP-1068, 3825, 4004-1 mixtures and 250 - 300 ✓

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On the Application of Granulated Rubber Mixtures in Molding Technique

kg/h for the 4326 mixture. In the case of the second group the granulation could only be accomplished by using an ashing medium, namely, a 5% emulsion of kaolin and zinc stearate (prepared in a 5% aqueous solution of leuconol). The following thermal conditions for the granulation were applied: temperature of the machine's body 40 - 45°C (at the starting moment 50 - 55°C), of the screen 55 - 60°C, the external part of the granulating head 30 - 40°C. Further conditions are listed. In the case of the third group, a 5% kaolin emulsion was used in the granulation procedure. A considerable drop in the strength and the elongation of the vulcanizates was noticed for the 2542 H-3 (2542 N-3) mixture. In the case of the 4908 mixture, there was very little difference noted in the indices of the vulcanizates obtained from the granulated mixture and from the initial one. Not all mixtures are worth using in the form of granules. This can be seen from the physico-mechanical indices of the vulcanizates obtained from the various granulated mixtures. The possibility of producing molded articles from granulated mixtures based on nitrile rubbers was proved, but the design of the press-die must be changed: the loading volume must be increased, there should be a pressing plunger for the pressing of the granules into a monolithic part. It is also stressed that further work must be conducted on the selection of ashing mediums, which ✓

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On the Application of Granulated Rubber Mixtures in Molding Technique

would not decrease the physico-mechanical indices of the vulcanizates. Synthetic resins, which would not melt at temperatures developing during granulation, but which would melt at temperatures occurring during vulcanization, would be suitable. I.N. Popov, S.N. Mardon'yev and V.M. Burmistrov participated in the work. There are 3 tables and 2 diagrams.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti (Scientific Research Institute of the Rubber Industry)

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S/138/59/000/011/009/011
A051/A029

AUTHORS: Gorelik, B. M., Chelyshev, V. V., Kapshtyk, V. I.

TITLE: Some of the Technical Factors Which Determine the Quality of
Calendering

PERIODICAL: Kauchuk i Rezina, 1959, No. 11, pp. 49-51.

TEXT: The problem of determining the optimum degree of polishing required of the surface in calender machine rollers is studied. A method is offered for determining this factor and the effect of the polishing degree on the calendering of the rubber. Several functioning calendering machines in various rubber-producing plants were investigated and certain conclusions drawn. The profilometer KB-7 (KV-7) shown in a photograph was used for determining the degree of polishing in the surface of the calender rollers (type 740). The measurements were carried out at 25-40°C and the method is given in detail. The optimum value was found to be within the range of the 6-7 class (according to GOST 2789-51 (GOST-2789-51) for mass-produced rubbers. The polishing degree of the roller surfaces in various plants was highly varied, i.e., within the range of 5-9th class. The rollers in the

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Some of the Technical Factors Which Determine the Quality of Calendering

same calender can be of various degrees of polishing. If the degree of polishing is too high, i.e., above the optimum value, the calendering of the rubber can be impaired, e.g., the formation of bubbles on the rubber's surface can take place. It was found that the productivity on the four- and five-roller calenders, as compared to that of the three-roller ones is higher by about a factor of two and sometimes three. The four- and five-roller calenders with removable rollers have an advantage over the three- and four-roller calenders with a vertical presentation of the rollers, viz., when the feeding takes place from two sides, the rubber is folded on the calender itself. This helps to produce rubber without bubbles. If the surface is underpolished the resultant calendered rubber is of a low quality, having scratches, creases, etc. This also causes the processed material to stick to the rough surface, making the work more difficult. Calendering machines with thin-walled rollers have an advantage over those with thick-walled rollers in that they can be used for producing rubber of a greater variety. It is difficult to manufacture rubbers, such as the polychloroprene type requiring low temperatures, on the thick-walled roller calenders.

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Some of the Technical Factors Which Determine the Quality of Calendering

G. A. Polivektov and I. S. Kheyfets took part in the work. There is 1 photograph and 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti
(Scientific Research Institute of the Rubber Industry)

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